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Notice of Allowability	Application No.	Applicant(s)	
	10/724,015	ERCHAK, ALEXEI A.	
	Examiner	Art Unit	
	Joseph L. Williams	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to ____.
2. ☒ The allowed claim(s) is/are 27-54, 56, 60, 63-65, 67-91 and 93-106.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date ____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date <u>4/07</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other ____. |

DETAILED ACTION

The amendment filed on 23 April 2007 has been entered and overcomes the rejections to the claims.

Allowable Subject Matter

1. Claims 27-54, 56, 60, 63-65, 67-91, and 93-106 are allowed.
2. The following is an examiner's statement of reasons for allowance:

Regarding claim 27, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 27, and specifically comprising the limitation of a light emitting device where the extraction efficiency is independent the length of the device and a first surface of the device includes a pattern of holes with an ideal lattice constant and a detuning parameter greater than zero, along with the rest of the limitations of the claim.

Regarding claim 56, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 56, and specifically comprising the limitation of a light emitting device wherein the first layer comprises a semiconductor material and a surface of the first layer has a dielectric function that varies spatially according to a nonperiodic-pattern comprising a plurality of non-concentric holes, a majority of the non-periodic pattern having order, along with the rest of the limitations of the claim.

Regarding claim 75, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 75, and specifically comprising the limitation of a light emitting device wherein the first layer comprises a semiconductor material and a surface of the first layer has a dielectric function that varies spatially according to a nonperiodic pattern comprising holes being devoid of material within a perimeter defined by the first layer, a majority of the nonperiodic pattern having order, along with the rest of the limitations of the claim.

Regarding claim 84, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 84, and specifically comprising the limitation of a light emitting device wherein the first layer comprises a semiconductor material and a surface of the first layer has a dielectric function that varies spatially according to a nonperiodic-pattern comprising a plurality of non-concentric holes; and wherein the non-periodic pattern is configured so that light emerging from the light-emitting device via the first surface is more collimated than a lambertian distribution of light, along with the rest of the limitations of the claim.

Regarding claim 93, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 93, and specifically comprising the limitation of a light emitting device wherein the first layer comprises a semiconductor material and a surface of the first layer has a dielectric function that varies spatially according to a nonperiodic pattern comprising features, a majority of the features having substantially the same size and a majority of the nearest neighbor

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distances between features being substantially the same, along with the rest of the limitations of the claim.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph L. Williams whose telephone number is (571) 272-2465. The examiner can normally be reached on M-F (6:30 AM-3:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Joseph L. Williams
Primary Examiner
Art Unit 2879